

Figure 1

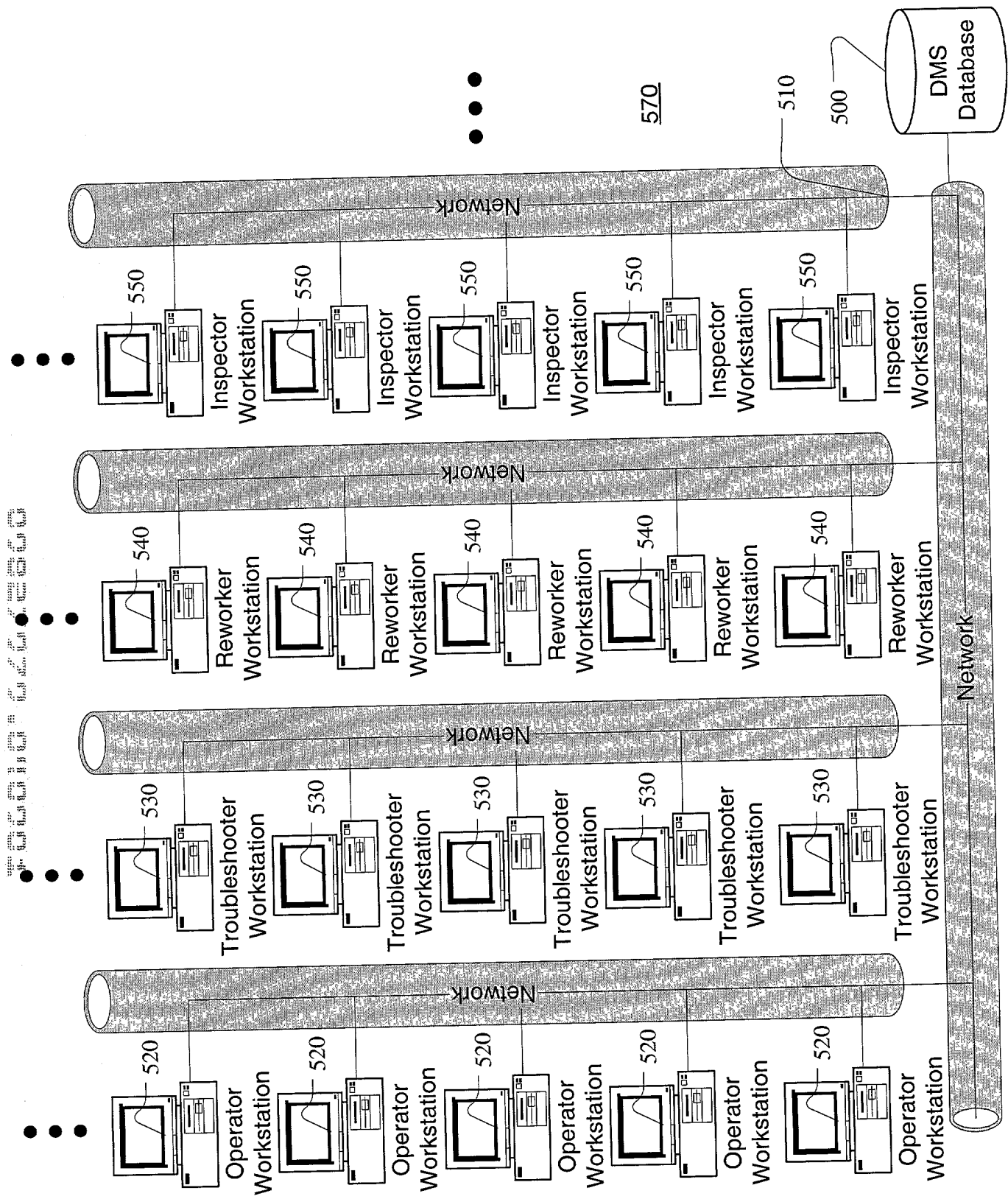


Figure 2

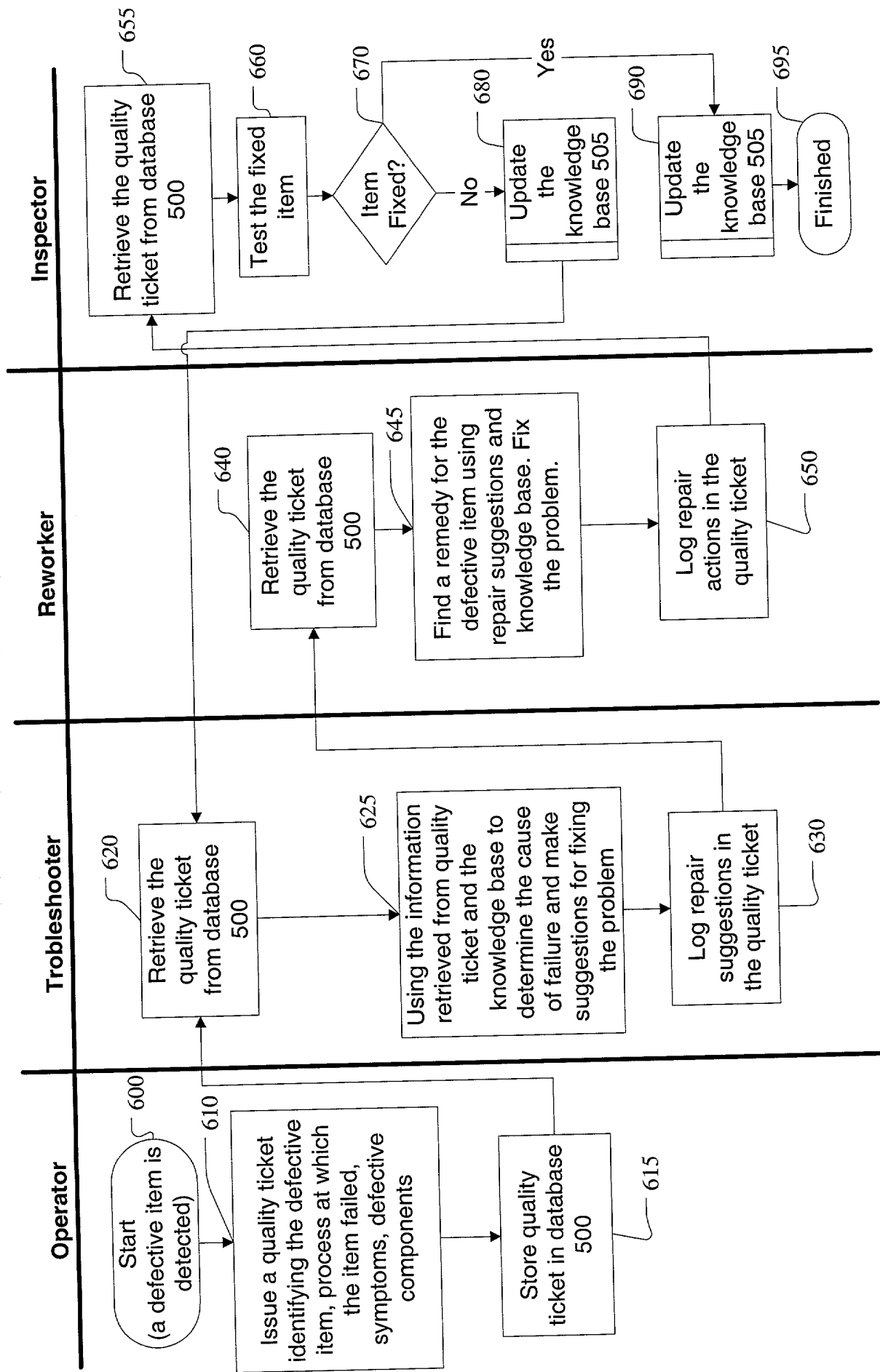


Figure 3

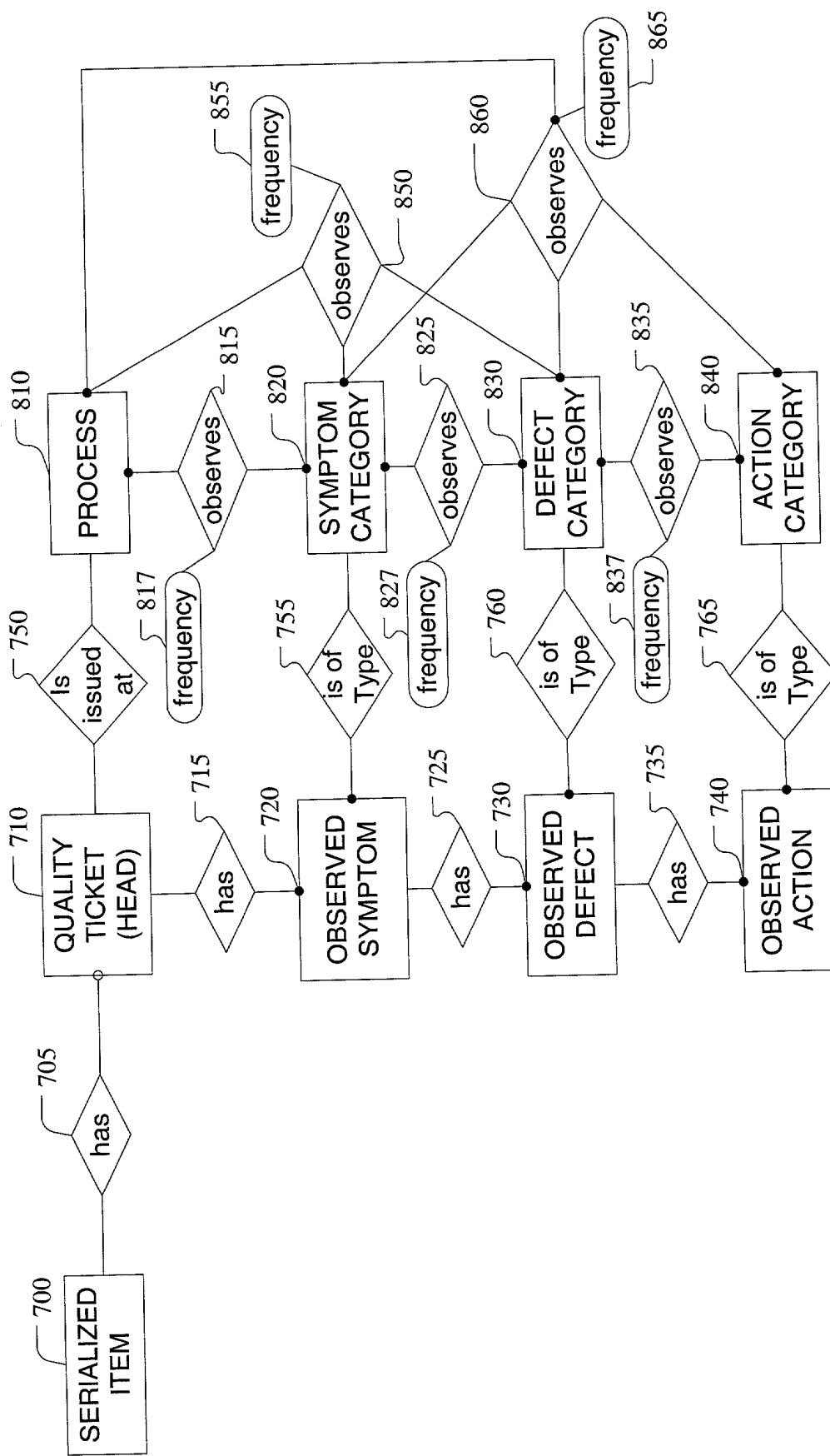


Figure 4

US 2017/0100000 A1

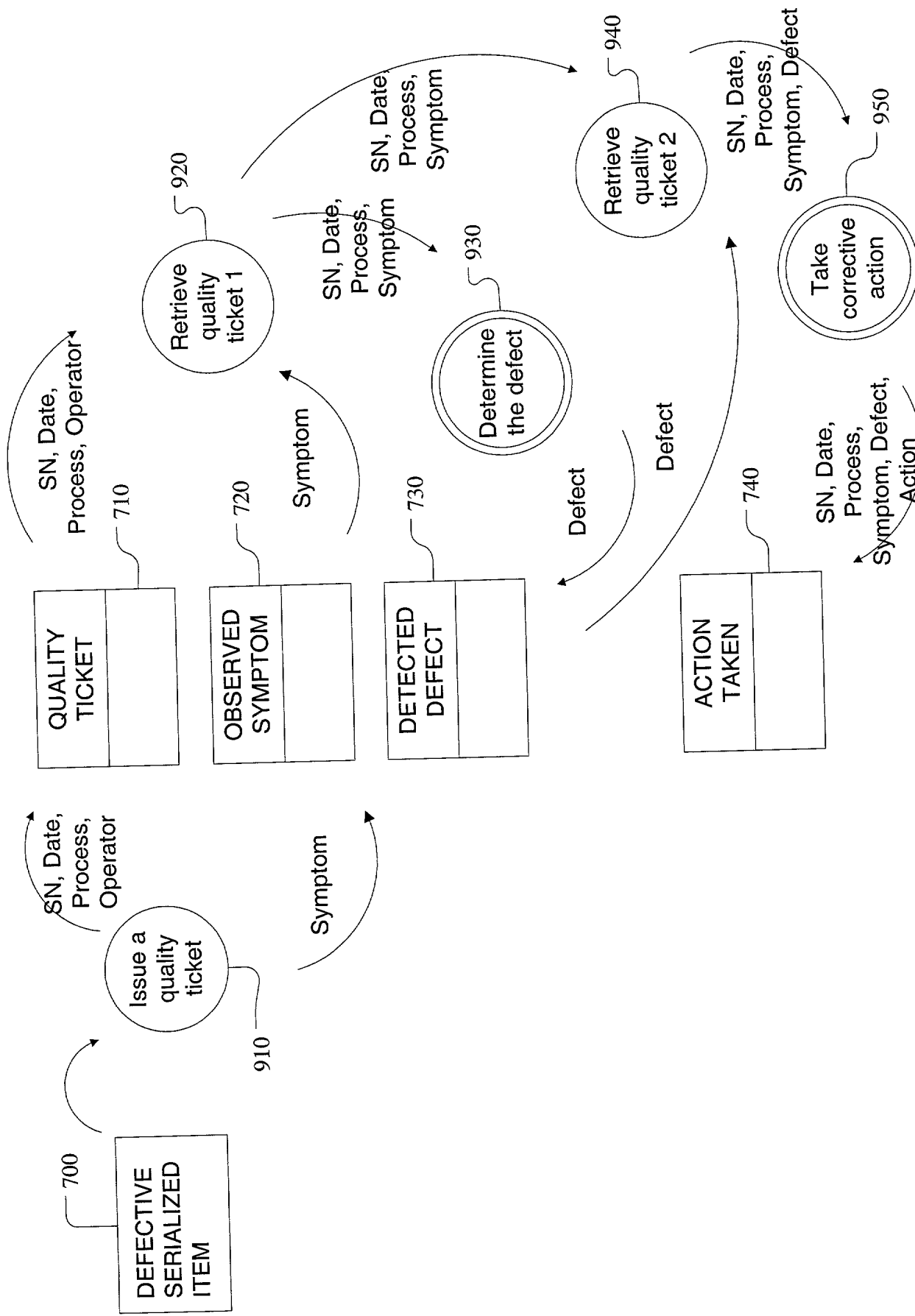


Figure 5

Quality Ticket (V 1.2.2)

Serial Number: [ ] Ticket: [ ] Close Quality Ticket: [ ]

House Info: Application: [ ] Part Number: [ ] Description: [ ] Revision: [ ]

Area Of Operation: [ ]

Symptom: [ ]

Induced By: [ ] Process Step (Test): [ ]

Symptom Category: [ ] Symptom: [ ]

Comment: [ ]

Quality Ticket Expires: [ ] DES Support: [ ]

Current Operator: [ ] Cancel/New: [ ] Defect: [ ] No Defect: [ ] Close: [ ]

10 15 20 25 27 30 35 40 45 50 60 65 70 75 80 85 90 95 105 110 115 120 130 135 140

Figure 6a

**Defect Management System (V 1.4.0) - Quality Ticket**

Serial Numbers: [ ] Ticket: [ ]

Lookup [ ]

Serialized Item Factory Data

Application [ ] Revision [ ]

Part Number [ ] Description [ ]

Close Quality Ticket

Are you Operational? [ ] System Test [ ]

Symptom [ ]

Process (Test Stage) [ CIAO 1 ] Process Step (Test) [ DT ]

Comment [ ]

Quality Ticket Explorer [ ] QCS Support [ ]

System Test [ ]

Save [ ] Cancel/New [ ] Defect [ ] Close [ ]

7 [ ] 105 [ ] 140 [ ] 110 [ ] 115 [ ] 120 [ ] 130 [ ] 135 [ ]

5a

30

35

40

45

50

60

70

75

90

95

Figure 6b



Figure 1 is a screenshot of a computer screen displaying a "Quality Ticket Entry" window. The window is divided into several sections. At the top, there's a "Serial Number" field with "A400000001" and a "Ticket" field. Below these are "Lookup" and "Get Info" buttons. A "Close Quality Ticket" button is at the bottom left. The main area is titled "Area Of Operation" and shows "10G". It contains a "Symptom" dropdown, a "Module Application" dropdown with "Network (RW)", a "Justification" text area, and buttons for "Save" and "Cancel". A "Process (Test Stage)" dropdown is set to "01". The "Symptom Category" is "N/A". A "Symptom" dropdown is set to "N/A". A "Domain" dropdown is set to "Testing". At the bottom, there are buttons for "Quality Ticket Expires", "QCS Support", "Save", "Cancel/New", "Delete", and "Close". The window title bar says "Quality Ticket Entry".

Figure 7



Figure 8 is a screenshot of a Quality Ticket Explorer application window. The window displays a list of quality tickets, a search bar, and a sidebar with navigation options. The main area shows a list of tickets with columns for Serial Number, Status, Test, and Time. The search bar is located at the top right, and the sidebar is on the left. The application window has a title bar and standard Windows window controls.

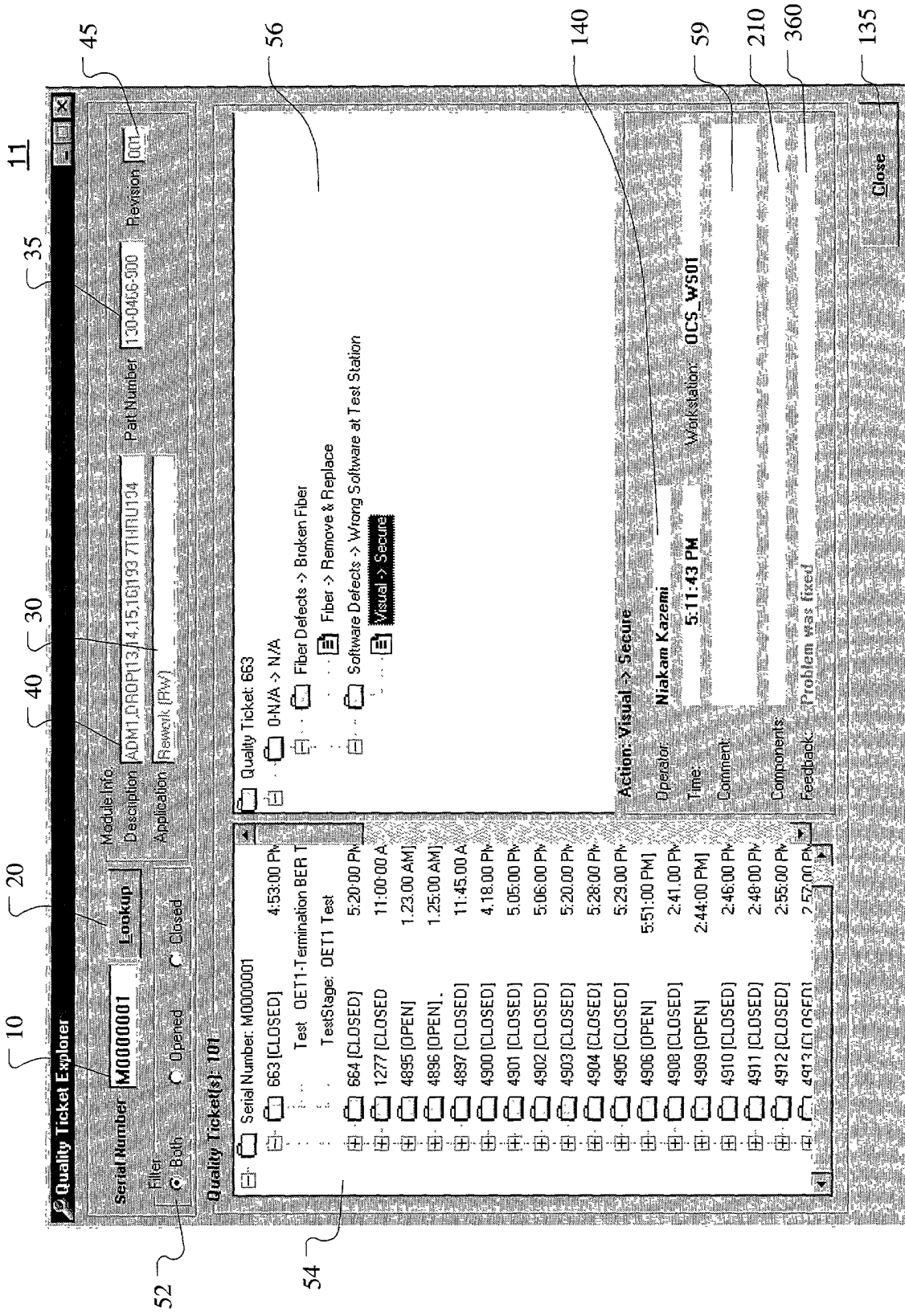


Figure 8

Figure 9

Figure 1 is a screenshot of a "Defect Management System" interface. The window title is "Defect/Action Information for Quality Ticket: Ticket#: 411 (SN: M0154632; PN: 130-0321-910; Rev: B)". The interface is divided into several sections. The top section contains fields for "Quality Ticket", "Symptom Info", "Process Step (Cell)", "Symptom Category", and "Comment". Below this is a "Defect List and Details" section with a table showing defect information. The table has columns for "Defect Category", "Defect", "Action", and "Status". The first row shows "Solder Defects", "w541", "1154", and "components not solder properly.". The second row shows "Solder Balls" and a checkmark. The bottom section contains buttons for "Save/New", "Cancel", "Log Date/Time", and "Close". A "Defect Management System" dialog box is open in the foreground, displaying a message: "Defect information was logged in the database." with an "OK" button.

Figure 10a



**Defect/Action Information for Quality Ticket: Ticket#: 4895 [SN: M0000001: PN: 130-0466-900: Rev: 001]**

Operator: CIENA\dmstestuser1  
 Process (Test Stage): OT1 - Rx/  
 Symptom Category: T-N/A  
 Comment: N/A

Area of Operation: 10G  
 Process Step (Test): RX grating test  
 Symptom: N/A

**Defect**

Defect Category:

Components:

Comment:

**Action**

Defect:

**Save**

**Troubleshooting Guide**

**To get the detailed information on each defect double click on the corresponding row or click on the Feedback button**

Status	Defect Category	Defect	Reference Designator(s)
Not Fixed	Component Defects	Damaged	YERE, EEE
No Action	Component Defects	Damaged	tmdd
No Action	Component Defects	Damaged	GGG, DFDD, DDD
No Action	Component Defects	Damaged	

**Feedback** **Close**

Figure 10b

Figure 2 is a screenshot of a software window titled "Defect/Action Information for Quality Ticket: Ticket#: 416 (SN: M0000002; PN: 130-0466-900; Rev: 001)". The window is divided into several sections:

- Quality Ticket Symptom Info:** This section contains fields for "Process Step (Tech)" (with a dropdown menu showing "Part 130c"), "Symptom" (with a dropdown menu showing "No/A"), and a "Comment" field.
- Indicated by:** This field displays "CIENAVmmpata, CIENAVmmpata".
- Defect:** This section includes a "Defect" dropdown menu, an "Action Category" dropdown menu, a "Components" field, and a "Comment" field.
- Action:** This section includes an "Action" dropdown menu and a "Feedback" field.
- Defect List and Details:** This section displays a table with the following columns: "Defect Category", "Defect", "Broken Fiber", "Tool/Defect", and "Defect Time". The table shows one entry with "Defect Category" as "Fiber Defect", "Defect" as "Broken Fiber", "Broken Fiber" as "Broken Fiber", "Tool/Defect" as "CIENAVmmpata, CIENAVmmpata", and "Defect Time" as "0:45:00 PM".
- Area of Operation: 1:** This field displays "Current Operator: CIENAVmmpata, CIENAVmmpata".

The window also features a "Close" button in the top right corner and a "Cancel" button in the bottom right corner.

Figure 11a

Defect/Action Information for Quality Ticket: Ticket#: 4895 [SN: M00000001: PN: 130-0466-900: Rev: 001]

Operator: CIENA\dm\testuser1  
 Process (Test Stage): OT1 - Rx  
 Symptom Category: 1-N/A  
 Comment:

Area of Operation: 10G  
 Process Step (Test): RX grating test  
 Symptom: N/A

Defect: Testing2  
 Action: Testing2 Step

Components: Testing2  
 Comment:

Save

To get the detailed information on each defect double click on the corresponding row or click on the Feedback button

Status	Defect Category	Defect	Reference Designator(s)
Not Fixed	Component Defects	Damaged	YERE, EEE
No Action	Component Defects	Damaged	tmd
No Action	Component Defects	Damaged	GGG, DFDD, DDD
No Action	Component Defects	Damaged	GGG, DFDD, DDD

Feedback  
 Close

Figure 11b



The image shows a screenshot of a computer screen displaying a software application window titled "Defect/Action Information for Quality Ticket". The window is divided into several sections. At the top, there is a header bar with the title. Below the header, the window is organized into a form-like structure. On the left side, there are several input fields and labels: "Symptom Info", "Process Step (Test)", "Symptom Category", and "Comment". To the right of these fields, there are dropdown menus and buttons. A "Defect List and Details" section is visible, containing a table with columns for "Defect Category", "Defect", and "Log Date Time". The table lists several defects, including "Broken Fiber", "Damaged", "Broken Fiber", and "Wrong Software at Test Station". Below the table, there are buttons for "Save", "Cancel", "Remove & Replace", and "Close". The window also includes a "Troubleshooting" section with a list of actions and a "Log Date Time" column. The background of the screen shows a Windows desktop environment with a taskbar and a clock.

## Figure 12

70 80 295 75 85 9

Defect/Action Information for Quality Ticket: 416 (SN: M0000002, PN: 130-0466-900; Rev: 001)

Quality Ticket

Symptom Info

Process (Test Stage)

Symptom Category

Comment

Initiated by

70

80

295

75

85

9

Process Step/Test

Symptom

N/A

Defect

300

385

305

390

360

307

310

320

397

Action Category

Components

Defect

Resolution

Feedback

Defect List and Details

Defect Category

Defect Details

Area of Operation: 1

Current Operator

Action

364

366

330

340

350

Problem was fixed

Problem was not fixed

Cancel

Save

Close

Figure 13

335 Detailed information for defect: 3305

285 Troubleshooter: Kazem-1, Niskam

280 Defect Category: Component Defects

322 Defect: Damaged

385 RD(s): YERE, EEE

323 Comment:

380 Reworker: Kazem-1, Niskam

335 Action Category: Components

323 Action: Cleaned

RD(s):

Comment:

☒ Problem was not fixed

This box is to provide the system with feedback on whether the problem with the item has been fixed or not. This information is being checked when closing the quality ticket. If the quality ticket contains a defect with no corresponding action showing 'Problem was fixed' the ticket cannot be closed.

☐ Problem was fixed ☐ Problem was not fixed

324 Save feedback

350 Close

366

Figure 14

# Troubleshooting Guide

The following is a list of the most likely causes for the specified SYMPTOM

Defect Category	Defect	Frequency
Component Defects	Defective Component	58
Testing Defects	Test Error	51
Component Defects	Damaged	26
Fiber Defects	Broken Fiber	11
Connector Defects	Pitted	10
Solder Defects	Insufficient Solder	8
Testing Defects	High Insertion loss	6
Solder Defects	Excessive Solder	5
Testing Defects	Proof Test Break	5
Component Defects	Wrong Component	5

Close

Figure 15